

09/751299
STN Search Summary

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FILE 'CAPLUS' ENTERED AT 15:46:19 ON 26 MAR 2003
L1 836 S NITRILASE OR (NITRILE (2W) HYDRATASE)
L2 187 S L1 AND (CYANO? OR CYANIDE)
L3 50 S L2 AND (?CARBOXYLIC (2W) ACID)
L4 20 S L3 AND (STEREO? OR REGIO? OR ENANTIO?)

L4 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2003:229543 CAPLUS
TI Purification, cloning, sequencing and over-expression inEscherichia coli
of a regioselective aliphatic nitrilase from Acidovorax
facilis 72W
AU Chauhan, S.; Wu, S.; Blumerman, S.; Fallon, R. D.; Gavagan, J. E.;
DiCosimo, R.; Payne, M. S.
SO Applied Microbiology and Biotechnology (2003), 61(2), 118-122

L4 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2003:6085 CAPLUS
TI Bacterial nitrilase and gene sequences exhibiting
stereoselectivity useful for synthesis of chiral reaction products
IN Madden, Mark; Desantis, Grace; Chaplin, Jennifer Ann; Weiner, David Paul;
PA Milan, Aileen; Chi, Ellen; Short, Jay M.; Burk, Mark
Diversa Corporation, USA; Madden, Darcy
SO PCT Int. Appl., 560 pp.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2003000840	A2	20030103	WO 2002-US15983	20020515
PRAI US 2001-300189P	P	20010621		
US 2001-309006P	P	20010730		
US 2002-351336P	P	20020122		

L4 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2002:525755 CAPLUS
TI An enzyme library approach to biocatalysis: development of
nitrilases for enantioselective production of
carboxylic acid derivatives
AU DeSantis, Grace; Zhu, Zuolin; Greenberg, William A.; Wong, Kelvin;
Chaplin, Jenny; Hanson, Sarah R.; Farwell, Bob; Nicholson, Lawrence W.;
Rand, Cynthia L.; Weiner, David P.; Robertson, Dan E.; Burk, Mark J.
CS Diversa Corporation, San Diego, CA, 92121, USA
SO Journal of the American Chemical Society (2002), 124(31), 9024-9025

L4 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2002:123237 CAPLUS
TI Preparation of dicarboxylic acid monoesters from cyanocarboxylic acid esters
IN Chauhan, Sarita; Dicosimo, Robert; Fallon, Robert D.; Gavagan, John E.; Payne, Mark S.
PA E. I. Du Pont de Nemours and Company, USA
SO PCT Int. Appl., 31 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002012527	A2	20020214	WO 2001-US24299	20010803
	WO 2002012527	A3	20020822		
	US 6455730	B1	20020924	US 2000-632419	20000804
	AU 2001079159	A5	20020218	AU 2001-79159	20010803
PRAI	US 2000-632419	A	20000804		
	WO 2001-US24299	W	20010803		
OS	CASREACT 136:166162; MARPAT 136:166162				

L4 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2001:878920 CAPLUS
TI (E)-Selective hydrolysis of (E,Z)-.alpha.,.beta.-unsaturated nitriles by the recombinant nitrilase AtNIT1 from Arabidopsis thaliana
AU Effenberger, Franz; Osswald, Steffen
SO Tetrahedron: Asymmetry (2001), 12(18), 2581-2587

L4 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2001:747978 CAPLUS
TI Isolation and expression of a gene for a nitrilase from Acidovorax facilis 72W and use of recombinant nitrilase as a biocatalyst
IN Fallon, Robert D.; Payne, Mark S.; Chauhan, Sarita; Dicosimo, Robert
PA E.I. Dupont De Nemours and Company, USA; Gavagan, John, E.
SO PCT Int. Appl., 67 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001075077	A2	20011011	WO 2001-US10481	20010330
	WO 2001075077	A3	20021017	.	
	WO 2001075077	C1	20021219		
	EP 1280892	A2	20030205	EP 2001-922985	20010330
PRAI	US 2000-193707P	P	20000331		
	WO 2001-US10481	W	20010330		
OS	MARPAT 135:315314				

L4 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2003 ACS
AN 2001:669871 CAPLUS
TI Enzymatic routes to enantiomerically pure aromatic .alpha.-hydroxy carboxylic acids: a further example for the diversity of biocatalysis
AU Groger, Harald
SO Advanced Synthesis & Catalysis (2001), 343(6+7), 547-558

L4 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2003 ACS
 AN 2001:489604 CAPLUS
 TI Producing enantiomerically pure .alpha.-substituted carboxylic acids using stereospecific nitrilases in the presence of Strecker reagents
 IN Madden, Mark; Weiner, David Paul; Chaplin, Jennifer Ann
 PA Diversa Corp., USA; Madden, Darcy
 SO PCT Int. Appl., 87 pp.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001048175	A2	20010705	WO 2000-US35555	20001229
	WO 2001048175	A3	20020214		
	US 2002012974	A1	20020131	US 2000-751299	20001228
	EP 1242589	A2	20020925	EP 2000-989578	20001229
PRAI	US 1999-173609P	A2	19991229		
	US 2000-254414P	A2	20001207		
	WO 2000-US35555	W	20001229		
OS	CASREACT 135:89140; MARPAT 135:89140				

 L4 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2003 ACS
 AN 2000:254122 CAPLUS
 TI Preparation of chiral carboxylic acids from racemic nitriles by resolution with a stereospecific nitrilase or nitrilase-containing microorganisms
 IN Ress-loeschke, Marion; Friedrich, Thomas; Hauer, Bernhard; Mattes, Ralf; Engels, Dirk
 PA BASF A.-G., Germany
 SO Ger. Offen., 28 pp.
 LA German

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19848129	A1	20000420	DE 1998-19848129	19981019
	WO 2000023577	A1	20000427	WO 1999-EP7679	19991013
	AU 9964708	A1	20000508	AU 1999-64708	19991013
	BR 9914629	A	20010626	BR 1999-14629	19991013
	EP 1123386	A1	20010816	EP 1999-952558	19991013
	EE 200100232	A	20020815	EE 2001-200100232	19991013
	JP 2002527106	T2	20020827	JP 2000-577288	19991013
	NO 2001001912	A	20010418	NO 2001-1912	20010418
	ZA 2001004066	A	20020701	ZA 2001-4066	20010518
PRAI	DE 1998-19848129	A	19981019		
	WO 1999-EP7679	W	19991013		
OS	MARPAT 132:292813				

L4 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2003 ACS
 AN 1998:618329 CAPLUS
 TI Nitrile hydratase and amidase genes recombinant
 production in host cells and use for the production of chiral amides and
 carboxylic acids
 IN Fallon, Robert Donald; Nelson, Mark James; Payne, Mark Scott
 PA E. I. Du Pont De Nemours and Company, USA
 SO U.S., 37 pp.
 PATENT NO. KIND DATE APPLICATION NO. DATE

 PI US 5811286 A 19980922 US 1996-726136 19961004
 US 5888785 A 19990330 US 1998-103411 19980624
 US 6133421 A 20001017 US 1998-103434 19980624
 US 6251650 B1 20010626 US 2000-687594 20001013
 PRAI US 1995-4914P P 19951006
 US 1996-726136 A3 19961004
 US 1998-103434 A3 19980624

L4 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2003 ACS
 AN 1996:367768 CAPLUS
 TI Method of producing optically active .alpha.-hydroxy acid or
 .alpha.-hydroxyamide
 IN Tamura, Koji
 PA Nitto Chemical Industry Co., Ltd., Japan
 SO Eur. Pat. Appl., 10 pp.
 PATENT NO. KIND DATE APPLICATION NO. DATE

 PI EP 711836 A1 19960515 EP 1995-307976 19951108
 EP 711836 B1 20000202
 R: DE, FR, GB
 JP 08131188 A2 19960528 JP 1994-299109 19941109
 JP 3119468 B2 20001218
 US 5736385 A 19980407 US 1995-556085 19951109
 PRAI JP 1994-299109 A 19941109

L1 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 2001:489604 CAPLUS
DN 135:89140
TI Producing enantiomerically pure .alpha.-substituted carboxylic acids using stereospecific **nitrilases** in the presence of **Strecker** reagents
IN Madden, Mark; Weiner, David Paul; Chaplin, Jennifer Ann
PA Diversa Corp., USA; Madden, Darcy
SO PCT Int. Appl., 87 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001048175	A2	20010705	WO 2000-US35555	20001229
	WO 2001048175	A3	20020214		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 2002012974	A1	20020131	US 2000-751299	20001228
	EP 1242589	A2	20020925	EP 2000-989578	20001229
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
PRAI	US 1999-173609P	A2	19991229		
	US 2000-254414P	A2	20001207		
	WO 2000-US35555	W	20001229		
OS	CASREACT	135:89140; MARPAT	135:89140		

L1 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 2000:598000 CAPLUS
DN 133:295394
TI Stereoretentive Nitrile Hydratase-Catalysed Hydration of D-Phenylglycine Nitrile
AU Wegman, M. A.; Heinemann, U.; Stoltz, A.; van Rantwijk, F.; Sheldon, R. A.
CS Laboratory of Organic Chemistry and Catalysis, Delft University of Technology, Delft, 2628 BL, Neth.
SO Organic Process Research & Development (2000), 4(5), 318-322
CODEN: OPRDFK; ISSN: 1083-6160
PB American Chemical Society
DT Journal
LA English
RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 13:32:39 ON 26 MAR 2003)

FILE 'CAPLUS' ENTERED AT 13:32:45 ON 26 MAR 2003
L1 2 S STRECKER AND NITRILASE

L2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
AN 2000:598000 CAPLUS
DN 133:295394
TI Stereoretentive Nitrile Hydratase-Catalysed Hydration of D-Phenylglycine Nitrile
AU Wegman, M. A.; Heinemann, U.; Stoltz, A.; van Rantwijk, F.; Sheldon, R. A.
CS Laboratory of Organic Chemistry and Catalysis, Delft University of Technology, Delft, 2628 BL, Neth.
SO Organic Process Research & Development (2000), 4(5), 318-322
CODEN: OPRDFK; ISSN: 1083-6160
PB American Chemical Society
DT Journal
LA English
CC 16-2 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 7
AB The hydration of D-phenylglycine nitrile to the corresponding amide, mediated by nitrile hydratase-contg. microorganisms, was studied. Batch and fed-batch reactions were compared with regard to degrdn. and racemization of the chem. labile substrate. A batch process gave satisfactory results and at up to 25 mM D-phenylglycine nitrile (D-1), D-phenylglycine amide was obtained in 94% yield with 92% ee using an immobilized Rhodococcus sp. (NOVO SP 361). The enzyme could be reused, although it slowly lost its activity. When the concn. of D-phenylglycine nitrile was increased to 100 mM in a batch reaction rapid decompn. of the substrate was obsd. and D-phenylglycine amide was obtained in only 37% yield. A fed-batch reaction afforded an improved yield, although the decompn. of the substrate could not be avoided completely. Lowering the temp. stabilized the substrate, and a fed-batch reaction at 5 .degree.C resulted in a 96% yield of D-phenylglycine amide with 95% ee. A no. of other whole-cell hydratase/amidase systems also hydrated D-1 in nearly quant. yield and >94% ee. Moreover, the ee was further increased to >99% upon prolonged reaction times with minimal loss in yield due to the action of the L-specific amidase that is present in these biocatalysts.
ST Rhodococcus immobilized nitrile hydratase phenylglycine nitrile hydration
IT Rhodococcus
 (NOVO SP 361; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT Amination
 (Strecker, retro-; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT Fermentation
 (batch; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT Immobilization, biochemical
 (microbial cell; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT Hydration, chemical
 (selective, enzymic; stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT Rhodococcus erythropolis
Rhodococcus globerulus
Rhodococcus rhodochrous
 (stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT 100-52-7, Benzaldehyde, biological studies
RL: ADV (Adverse effect, including toxicity); FMU (Formation, unclassified); BIOL (Biological study); FORM (Formation, nonpreparative)
 (stereoretentive nitrile hydratase catalyzed hydration of D-phenylglycine nitrile)
IT 6485-67-2P, D-Phenylglycine amide
RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
 (stereoretentive nitrile hydratase catalyzed hydration of

D-phenylglycine nitrile)
IT 9024-90-2, Nitrilase
RL: BPR (Biological process); BSU (Biological study, unclassified); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
(stereoretentive nitrile hydratase catalyzed hydration of
D-phenylglycine nitrile)
IT 45789-64-8 66116-54-9
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)
(stereoretentive nitrile hydratase catalyzed hydration of
D-phenylglycine nitrile)
IT 7664-41-7, Ammonia, formation (nonpreparative)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(stereoretentive nitrile hydratase catalyzed hydration of
D-phenylglycine nitrile)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; 1973 CAPLUS
- (2) Anon; 1978 CAPLUS
- (3) Anon; 1992 CAPLUS
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- (9) Boesten, W; EP 442585 1991 CAPLUS
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- (15) Gerhardt, P; Methods for General and Molecular Bacteriology 1994
- (16) Hunter-Cevera, J; Manual of Industrial Microbiology and Biotechnology 1999, P3
- (17) Hylton, T; US 4072698 1978 CAPLUS
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- (20) Macadam, A; Biotechnol Lett 1985, V7, P865 CAPLUS
- (21) Matthews, G; FR 2141354 1971 CAPLUS
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- (24) Patel, R; Stereoselective Biocatalysis 2000, P23
- (25) Pfennig, M; Arch Mikrobiol 1966, V55, P245
- (26) Rainey, F; Microbiology 1995, V141, P523 CAPLUS
- (27) Reilen, H; Liebigs Ann Chem 1936, V523, P199
- (28) Stoltz, A; J Mol Catal B: Enzymatic 1998, V5, P137 CAPLUS
- (29) Sugiura, Y; J Am Chem Soc 1987, V109, P5848 CAPLUS
- (30) Taillades, J; Bull Soc Chim Fr 1995, V132, P119 CAPLUS
- (31) Wegman, M; J Mol Catal B: Enzymatic, in press 2000

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STN Search Summary

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FILE 'CAPLUS' ENTERED AT 16:33:24 ON 26 MAR 2003
L1 262 S STRECKER (2W) SYNTHES?
L2 152 S L1 AND (AMINO (2W) ACID?)
L3 46 S L1 AND (CHIRAL?)
L4 2 S L3 AND CARBOXYL?
L5 7 S L3 AND ?CARBOXYL?
L6 5 S L5 NOT L4
L7 59 S L1 AND NITRIL?
L8 0 S L1 AND (NITRILASE OR (NITRILE (2W) HYDRATASE))
L9 17 S L1 AND REVIEW/DT

L6 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 2002:846194 CAPLUS
TI Carbocyclic .alpha.,.beta.-diamino acids: asymmetric Strecker synthesis of stereomeric 1,2-diaminocyclohexanecarboxylic acids
AU Pai Fondekar, Kamalesh P.; Volk, Franz-J.; Khaliq-uz-Zaman, S. M.; Bisel, Philippe; Frahm, August W.
SO Tetrahedron: Asymmetry (2002), 13(20), 2241-2249

L6 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 2000:656732 CAPLUS
TI Carbocyclic .alpha.-amino acids: asymmetric Strecker synthesis of a series of 2-alkylated 1-aminocyclopentanecarboxylic acids
AU Wede, Judith; Volk, Franz-J.; Frahm, August W.
SO Tetrahedron: Asymmetry (2000), 11(15), 3231-3252

L9 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2003 ACS
AN 1998:452573 CAPLUS
TI Stereoselective syntheses using carbohydrates as carriers of chiral information
AU Kunz, Horst; Hofmeister, Armin; Glaser, Bjorn
CS Johannes Gutenberg-Universitat Mainz, Mainz, Germany
SO Polysaccharides (1998), 539-567. Editor(s): Dumitriu, Severian.
Publisher: Dekker, New York, N. Y.
DT Conference; General Review

L9 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2003 ACS
AN 1997:141855 CAPLUS
TI New strategies to .alpha.-alkylated .alpha.-amino acids
AU Wirth, Thomas
SO Angewandte Chemie, International Edition in English (1997), 36(3), 225-227

L9 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2003 ACS
AN 1997:55720 CAPLUS
TI Asymmetric catalysis of the Strecker amino acid synthesis by a cyclic dipeptide
AU Iyer, M. S.; Gigstad, K. M.; Namdev, N. D.; Lipton, M.
CS Department Chemistry, Purdue University, West Lafayette, IN, 47907, USA
SO Amino Acids (1996), 11(3-4), 259-268

L9 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2003 ACS
AN 1996:621179 CAPLUS
TI Syntheses of fluorinated amino acids. From the classical to the modern concept
AU Tolmann, V.
SO Amino Acids (1996), 11(1), 15-36

L9 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2003 ACS
AN 1994:245702 CAPLUS
TI Recent developments in the stereoselective synthesis of .alpha.-amino acids
AU Duthaler, Rudolf O.
SO Tetrahedron (1994), 50(6), 1539-650

WEST Search History

DATE: Wednesday, March 26, 2003

<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side			result set
<i>DB=USPT,EPAB,DWPI; PLUR=YES; OP=OR</i>			
L3	L2 and (stereoselect\$ or chiral\$)	17	L3
L2	\$nitrilase same (carboxylate or (carboxylic adj acid) or amino adj acid)	105	L2
L1	\$nitrilase and (carboxylate or (carboxylic adj acid))	156	L1

END OF SEARCH HISTORY